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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/669,203	09/25/2000	HIROAKI KUBO	15162/02540	4054

24367 7590 01/14/2004

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EXAMINER
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SELBY, GEVELL V

ART UNIT	PAPER NUMBER
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2615

DATE MAILED: 01/14/2004

4

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/669,203

Applicant(s)

KUBO, HIROAKI

Examiner

Gevell Selby

Art Unit

2615

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3. 6) ☐ Other: .

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. **Claims 1, 2, 7, and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Nakano et al, US 5,043,816.**

In regard to claim 1, Nakano et al, US 5,043,816, discloses a digital camera comprising:

an image sensing unit (see figure 10, element 13) for sensing a subject image (see column 3, lines 38-40);

a detector (see figure 10, element 20) for detecting a degree of correlation between image data of a plurality of frames from said image sensing unit before shooting (see column 17, lines 45-58);

an exposure controller (see figure 10, element 24) for, in a case where the degree of correlation is low as a result of the detection by said detector, controlling an exposure time of said image sensing unit so as to be shorter than an exposure time in a case where the degree of correlation is high (see column 20, lines 1-21);

[In the case when the correlation is low, the controller captures at least 4 images with exposure times shorter than when the correlation is high. It also takes images with shorter exposure times when the correlation is high.]

a recorder (see figure 10, element 26) for recording image data from said image sensing unit controlled by said exposure controller (see column 18, lines 1-11).

In regard to claim 2, Nakano et al, US 5,043,816, discloses a digital camera according to claim 1, further comprising a comparator (see figure 10, element 20) for comparing a pixel level difference between the images of a plurality frames with a predetermined threshold value (see column 17, lines 52-57).

In regard to claim 7, Nakano et al, US 5,043,816, discloses a digital camera according to claim 1, further comprising a display (see figure 10, element 34) for displaying the image sensed by the image sensing unit before shooting, wherein said detector detects the degree of correlation from the image to be displayed by said display (see line 20, lines 35-58).

In regard to claim 8, Nakano et al, US 5,043,816, discloses an exposure control method of a digital camera, comprising the steps of:

sensing a subject image by an image sensing unit (see column 3, lines 38-40 and figure 10, element 13);

detecting a degree of correlation between image data of a plurality of frames from said image sensing unit before shooting (see column 17, lines 45-58);

in a case where the degree of correlation is low as a result of the detection, controlling an exposure time of said image sensing unit so as to be shorter than an exposure time in a case where the degree of correlation is high (see column 20, lines 1-21);

[In the case when the correlation is low, the controller captures at least 4 images with exposure times shorter than when the correlation is high. It also takes images with shorter exposure times when the correlation is high.]; and

recording image data from said controlled image sensing unit (see column 18, lines 1-11).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 3-6 and 9-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakano et al., US 5,043,816 in view of Tsuji et al., US 5,223,935.**

In regard to claim 3, Nakano et al, US 5,043,816, discloses a digital camera according to claim 2, but lacks wherein said detector detects the degree of correlation according to the number of the pixels for which the same comparison result is obtained.

Tsuji et al., US 5,223,935, discloses an electronic camera with a luminous detector and automatic exposure control. The camera has an exposure condition

determining section that adds together the number of pixels in the designated photometric area to calculate a reference value used to lookup the predetermined values in the lookup table to find the exposure time and diaphragm control data. (see column 5, line 9 – column 7, line 20)

It would have been obvious to a person skilled in the art at the time of invention to modify Nakano et al, US 5,043,816, in view of Tsuji et al., US 5,223,935, to have an automatic exposure processing section to detect the degree of correlation according to the number of pixels in order to determine exposure time data and diaphragm control data based on the level of luminous energy as taught by Tsuji et al., US 5,223,935, (see abstract).

In regard to claim 4, Nakano et al, US 5,043,816, in view of Tsuji et al., US 5,223,935,, as explained above for claim 3, discloses a digital camera according to claim 3, wherein said detector detects the degree of correlation according to the ratio between the number of the pixels and a predetermined number of pixels (see Tsuji: column 5, lines 25-67).

The correlation value  $N$  is equal to the ratio between the number of pixels  $TO$  and the number of pixels of a predetermined photometric area  $AS$ ,  $BS$ , or  $CS$ .

In regard to claim 5, Nakano et al, US 5,043,816, in view of Tsuji et al., US 5,223,935,, as explained above for claim 3, a digital camera according to claim 2, wherein said detector detects (in exposure condition A) the degree of correlation according to the sum of the pixels for which the pixel level difference is not less than the predetermined threshold ( $S(\text{Min})$ ) value (see Tsuji: column 6, lines 44-62) .

In regard to claim 6, Nakano et al, US 5,043,816, in view of Tsuji et al., US 5,223,935,, as explained above for claim 3, a digital camera according to claim 5, wherein said detector detects the degree of correlation according to the ratio between the sum of the pixels and a predetermined number of pixels (see Tsuji: column 5, lines 25-67).

The correlation value N is equal to the ratio between the number of pixels TO and the number of pixels of a predetermined photometric area AS, BS, or CS.

In regard to claims 9 and 12, Nakano et al, US 5,043,816, in view of Tsuji et al., US 5,223,935,, as explained for claim 3, discloses a digital camera comprising:

- an image sensing unit (see Nakano: figure 10, element 13) for sensing a subject image (see Nakano: column 3, lines 38-40);

- a detector (see Nakano: figure 10, element 20) for detecting a degree of correlation between image data of a plurality of frames from said image sensing unit before shooting (see Nakano: column 17, lines 45-58);

- a memory (see Tsuji: figure 2, element 43) for storing a first program (A) and a second program (C) to control an exposure time and aperture value of said image sensing unit (see column 5, line 18- column 7, line 4), wherein the exposure time and aperture value based on the second program (C) is set to be shorter than the exposure time and aperture value based on the first program (A) (see figures 4A and B and column 6, lines 63-67);

a selector (see Tsuji: figure 2, element 47) for selecting the program in the case where the degree of correlation is lower than a predetermined level (SMax) (see column 6, lines 44-62); and

a recorder (see Nakano: figure 10, element 26) for recording image data from said image sensing unit controlled based on the second program (see column 20, lines 59-67).

In regard to claims 10 and 13, Nakano et al, US 5,043,816, in view of Tsuji et al., US 5,223,935,, as explained for claim 3, discloses a digital camera according to claims 9 and 12, wherein said selector selects the first program (A) in the case where the brightness of the subject is lower than a predetermined value (see Tsuji: column 6, lines 44-62).

In regard to claims 11 and 14, Nakano et al, US 5,043,816, in view of Tsuji et al., US 5,223,935,, as explained for claim 3, discloses an exposure control method of a digital camera, comprising the steps of:

sensing a subject image by an image sensing unit (see Nakano: column 3, lines 38-40);

detecting a degree of correlation between image data of a plurality of frames from said image sensing unit before shooting (see Nakano: column 17, lines 45-58);

storing a first program (A) and a second program (C) to control an exposure time and aperture value of said image sensing unit (see Tsuji: column 5, line 18- column 7, line 4), wherein the exposure time based on the second



program (C) is set to be shorter than the exposure time and aperture value based on the first program (A) (see figures 4A and B and column 6, lines 63-67);

selecting the second program in the case where the degree of correlation is lower than a predetermined level (SMax) (see Tsuji: column 6, lines 44-62); and

recording image data from said image sensing unit controlled based on the second program (see Nakano: column 20, lines 59-67).

### ***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following art discloses cameras that find the correlation between two images:

US 3, 828,122,


US 5,490,225,

US 6,532,264.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gevell Selby whose telephone number is 703-305-8623. The examiner can normally be reached on 8:00 A.M. - 5:30 PM (every other Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vu Le can be reached on 703-308-6613. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4700.



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